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ABSTRACT

Factors that may affect a medical student's decision to attend basic science lectures were investigated. Basic science faculty members and administrators' views on student lecture attendance were elicited to construct a questionnaire. A total of 103 first-year and 75 second-year medical students attending a Puerto Rican medical school responded to the questionnaire. Findings indicate that a majority of student respondents felt that tests did not measure lecture conference content and that test questions did not correspond to the level they were taught during lectures. Respondents indicated that the time dedicated to lectures was excessive and that the amount of material conveyed was difficult to assimilate effectively and efficiently. The teaching style of basic sciences teachers seemed to discourage students from attending lectures. Findings suggest that courses with defined objectives may reduce student absenteeism. Approximately 45% of each group of respondents believed that lecture attendance did not affect their achievement, while around 20% from each group felt lecture attendance negatively affected their grades. Implications for medical education are briefly addressed. (SW)

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Attendance at Basic Sciences Lectures: A Student Perspective

Short Title: Attendance at Lectures

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ABSTRACT

Attendance at lectures in medical schools has become a major problem and concern of faculty members and administrators. A preliminary study was conducted to obtain information regarding first and second year medical students' opinion towards attendance at basic sciences lectures. The study was conducted at a major medical school in Puerto Rico.

A questionnaire was administered to first and second year medical students. They were asked to indicate their level of agreement with each of the twenty-one items contained in the instrument. The responses were submitted to a frequency and percentage analysis. According to the analysis, the majority of first and second year medical students do not attend lectures frequently due to the availability of "Paper Chase". Another reason for not attending lectures is the lack of correspondence between what is taught and evaluated. In other words, in many instances basic science tests do neither measure conference content nor test questions corresponding to the level at which the students were taught. Furthermore, students feel that the time dedicated to lecturing is overwhelming and that lecturers are neither stimulating nor enthusiastic. Finally, the majority of the students surveyed indicated that attendance at lectures has no effect on their achievement. Moreover, a considerable number of students agreed that attendance at lectures has negative effects on their grades.

ATTENDANCE AT BASIC SCIENCES LECTURES: A STUDENT PERSPECTIVE

Introduction

Health educators have increasingly expressed their concern with students' failure to attend basic science lectures (Sade and Stroud, 1982; Hyde and Flournoy, 1986). The impact of absenteeism on student achievement is a major concern of medical educators and administrators, since considerable resources are allocated to providing classroom lectures (Glanz and Field, 1984). Several reasons for student dissatisfaction with pre-clinical years have been mentioned. Among these reasons are curriculum rigidity, emphasis on memorization, irrelevance of course material, attitude of faculty members and lack of contact with patients (Shuman, 1971; Eichna, 1980).

In most medical school programs, attendance at lectures is mandatory. It is believed that attendance reduces the chance of making poor grades. However, attendance at lectures is often felt by students to be an inefficient use of time. In addition, a number of studies indicate (Glanz and Field, 1984; Hyde and Flournoy, 1986) that attendance at lectures has little or no impact on student achievement.

Some medical students rationalize that very often faculty members are ineffective teachers who present unarticulated and dull lectures. It has been suggested that the student's response to the "informational blitzkrieg" that characterizes many basic sciences lectures is to ignore them by not attending class

(Awbrey, 1985). Faculty members on the other hand, allege that students are not sophisticated enough to judge their lectures and that they tend to underestimate the future importance of the knowledge acquired in the basic sciences in their medical careers (Sade and Stroud, 1982). In comparing the teaching style of basic and clinical sciences teachers, it has been argued that basic sciences teachers are more concerned with immediate than with long-term outcomes; their teaching seems to be more teacher-oriented than student-oriented. Faculty and student arguments on this problem can be highly emotional; not necessarily based on hard data. Arguments are usually centered on the organization of lectures as perceived by students and faculty. However, this may not be the sole reason for student absenteeism.

The study of the association of student attendance at lectures and student achievement, as measured by grades, is of great importance to medical educators in general. However, most studies have failed to consider other variables that may be affecting student's decision to attend lectures, i.e., absenteeism at lectures may be the effect of a conglomerate of variables; a number of conditions precluding students from attendance. Studies identifying and describing variables affecting student attendance at lectures are virtually non-existent.

The attendance at lectures is not a problem unique to medical schools in the United States. Medical Schools in Puerto Rico are also experiencing similar problems. By means of a

questionnaire, this preliminary study surveyed first and second year medical students' opinion on attendance at lectures as a problem. Specifically, the study attempted to identify specific situations that may affect a student's decision to attend basic sciences lectures.

Methods

Medical students (Medicine I and Medicine II), basic sciences faculty members and administrators were asked to provide their ideas and concerns on student attendance at lectures. As a result of these consultations a large number of items were generated addressing the following concerns: reasons for not attending lectures, conference content and the evaluation process, lecturer characteristics, course organization, student learning style, and impact of attendance on student achievement. Consultation continued until the number of items were reduced to thirty six (36). These items were considered the most appropriate to address the concerns mentioned above. Nine out of the thirty six items were designed to obtain demographical data while six others were used to cross-validate some specific items.

The questionnaire was administered to first (Med I) and second year (Med II) medical students at a major School of Medicine in Puerto Rico registered during the 1984-85 academic year. Students were asked to indicate their level of agreement to each statement using a four point Likert scale except on two items where a three point scale was used. A total of 103 Med I and 75 Med II students (out of 150 respectively) returned the

instrument. This represents a 69 percent and 53 percent response rate respectively. The response rate was considered appropriate for this type of study. The analysis of the data consisted of an item frequency count and percentages of the answers provided by Med I and Med II students.

Results

Student responses by concern/item are contained in Table 1. The first concern explores reasons for not attending lectures. The data obtained suggests that Med I and Med II students do not attend lectures due to the fact that they can obtain conference content through "paper chase" (Med I = 73% agree, Med II = 90% agree). According to students surveyed personal time programming does not affect their attendance at lectures. (Med I = 88%; Med II = 91%).

Insert Table 1 about here

The second concern explores the relationship between conference content and the process of evaluation. According to student responses, they disagree (Med I = 52%, Med II = 66%) with the statement that "tests measure conference content". Similarly, students in first year and second year of Medicine disagree (75% and 74% respectively) with the statement that test questions corresponds to the level they were taught during

lectures.

Lecturer characteristics were also explored. A look at this concern in Table 1 indicated that Med I and Med II students disagree (69% and 81% respectively) with the statements that lecturer's teaching style is simulating and lecturers are enthusiastic (Med I = 79%, Med II = 69%). However, both groups agree (Med I = 83%, Med II = 58%) that lecturers are more often than not well prepared for conferences.

The fourth concern "Course Organization" suggests that Med I and Med II students are in agreement with items fifteen (15), seventeen (17) and twenty eight (28), i.e., time on lectures is excessive, too much material is covered in a limited time, and lectures are not dynamic. However, Med I students consider that first year basic sciences lectures have well defined objectives (63% agree) and lectures tend to be well organized (53% agree) while Med II students are of the opinion that second year basic sciences lectures are not well organized (65% disagree) and that courses do not have well defined objectives (75% disagree).

According to the "Learning Style" concern, most Med I and Med II students agree with the statements that lab activities are very stimulating (item 20) (Med I = 66%, Med II = 70%) and that they can be responsible of course content without attending at lectures (item 31) (Med I = 65%, Med II 76%). In addition, a large number of Med I and II students seems to prefer to study from textbook the material covered in lectures.

The last concern explores the impact of student's attendance at lectures on grades. With this concern, student's responses

were grouped into a three points scale -- Positive Effect, No Effect, and Negative Effect. The data indicates that in both groups more students feel that attendance at lectures has no effect on their grades -- Med I - 43%, Med II = 44% -- while 39 and 31 percent of Med I and Med II students feel that there is a positive effect. A smaller percentage of students (Med I = 17%, Med II = 25%) feel that attendance at lectures has a negative effect on their grades.

Discussion

As stated earlier, the purpose of this investigation was to identify variables that may be influencing student's decision to attend basic sciences lectures. The impact of attendance at lectures on student achievement has not been well established. It seems illusory to believe that lecturing as a teaching strategy is solely responsible for student absenteeism. Other variables related or not to lecturing may be influencing to certain extent student attendance at lectures.

The results of this study suggest that the evaluation process can be a major factor. For instance, Med I and II students are of the opinion that tests do not measure conference content neither are test questions formulated at the level students were taught. Another important variable identified in the study is time. Both groups of students are of the opinion that time dedicated to lectures is excessive and that the amount of material conveyed is difficult to assimilate effectively and efficiently. It has been suggested elsewhere, (AAMC, 1984) the

need to reduce not only the number of hours dedicated to lectures but also the need to identify core content within the basic sciences.

The teaching style of basic sciences teachers seems to discourage students from attending their lectures. The Med I and Med II students surveyed consider that basic sciences teachers are neither stimulating nor enthusiastic. However, medical students acknowledge that pre-clinical teachers are well prepared for lectures.

Regarding course organization, it is inferred from the analysis that courses with well defined objectives may reduce student absenteeism. This is supported by the fact that Med I and Med II students considered that courses organized by objectives to offer well organized lectures and enable them to identify the important or core course content.

Finally, a considerable number of students are of the opinion that attendance at lectures has no effect on their achievement. However, a group of students believe (Med I = 17%; Med II = 20%) that attendance at lectures has a negative effect on their grades.

Implications

The results obtained from this study have three major implications for medical education, specifically for the pre-clinical years. There is a need to look carefully at the process employed to evaluate learning outcomes. It is a widely accepted educational principle that the evaluation process should

positively correlate with the content or concepts taught and with the cognitive level of the information conveyed.

Secondly, the time allocated to lectures alone seems to be excessive (approximately 6 hours per day, five days per week). Research indicates that the attending span of an individual fluctuates between fifteen and twenty five minutes. As a consequence, after several hours of passive learning students are turned off and a great number of them decide to step out of the conference room. There is a need to look for alternative teaching strategies in which students are active learners rather than passive recipients.

Finally, competencies in the education field should become a priority of medical school faculties. Expertise in a given basic science area do not suffice. Faculty members should be exposed to teaching and evaluating procedures appropriate to medical schools. For instance, the GPEP Report (AAMC, 1984) strongly suggests the incorporation of thinking and problem solving skills early in medical education. Moreover, medical schools should recognize professionally and financially those whose strength is teaching.

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Table 1

Analysis of Responses (percentages) of
Med I and Med II Students by Concern and Item

Concern/Item	Med I (N=103) Agree %	Med I (N=103) Disagree %	Med II (N=75) Agree %	Med II (N=75) Disagree %
Attending Lectures				
16 Do not program time appropriately	12	88	9	91
18 Can get content - Paper Chase	73	27	90	10
27 Have no time to go to lectures	54	46	47	53
Content and Evaluation				
12 Tests measure conference content	48	52	34	66
26 Test questions at level taught	25	75	26	74
10 Content level too high	58	42	34	66
Lecturer Characteristics				
9 Teaching style is stimulating	31	69	19	81
25 Emphasis on important points	54	46	38	62
30 Lecturers are well prepared	83	17	58	42
34 Lecturers are enthusiastic	21	79	31	69
Course Organization				
8 Well defined objectives	63	37	25	75
15 Time on lectures is excesive	71	29	60	40
17 Too much material-limited time	85	15	76	24
28 Lectures are not dynamic	79	21	80	20
29 Lectures are organized	53	47	35	65
Learning Style				
19 Do not attend before tests	66	34	70	30
20 Lab activities very stimulating	66	34	70	30
21 Attend lectures to understand	51	49	46	54
31 Responsible of content	65	35	76	24
14 Prefer to study from book	51	49	42	58
Impact of Attendance				
	Pos % / No Effect % / Neg %		Pos % / No Effect % / Neg %	
23 Effect on grades	39 / 43 / 17		31 / 44 / 25	